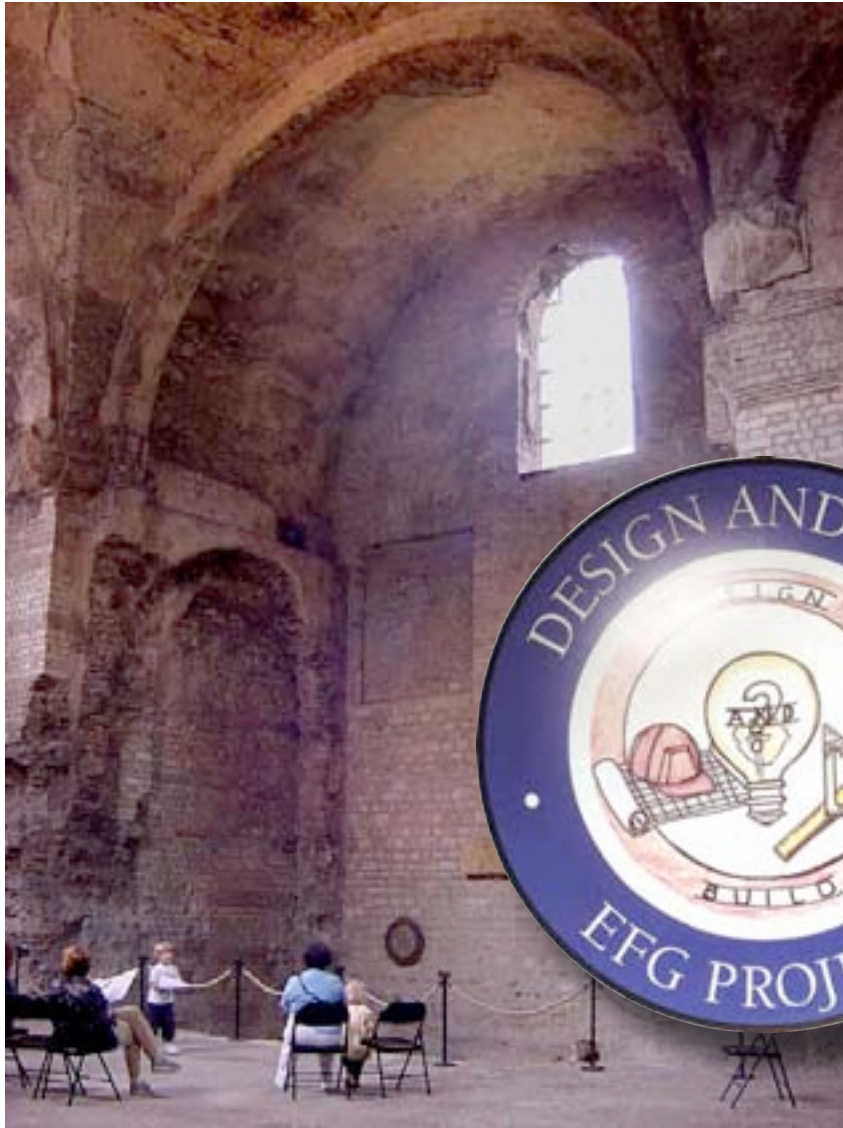


Design & Build

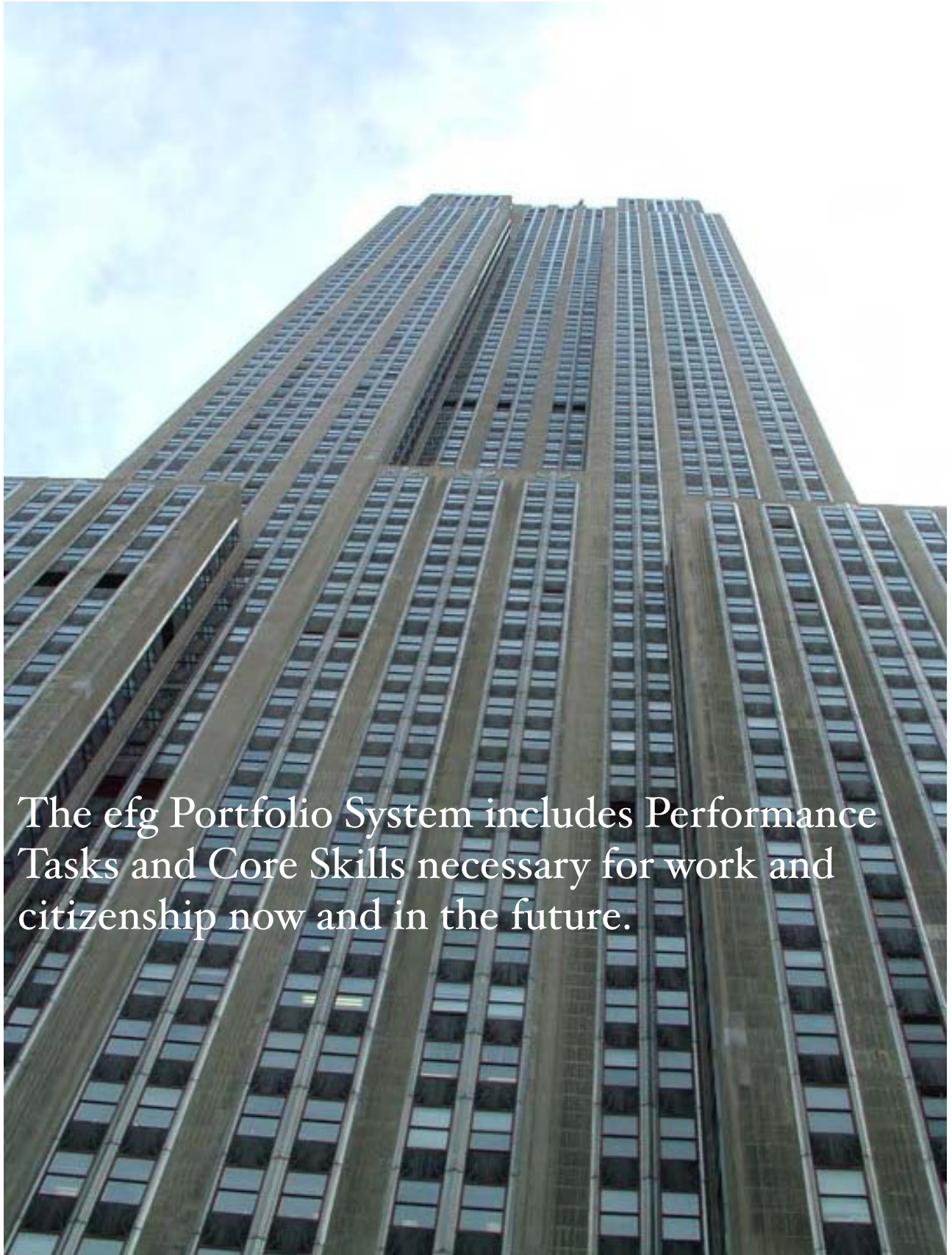


Vocabulary

- APARTMENT
- EQUIPMENT
- PANELING
- ARCHITECT
- FOUNDATION
- PERIMETER
- ARCHITECTURE
 - GARDEN
 - PLASTER
 - BAY WINDOW
 - GREENHOUSE
 - PLASTIC
 - BLUEPRINT
 - HABITAT
 - PLUMBER
 - BOTANIST
 - HAMMER
 - PROJECT MANAGER
 - BRICK
- HIGH RISE BUILDING
- PURCHASE ORDER
- BRIDGE
- HOME
- RECYCLE
- BUDGET
- HORTICULTURE

WHAT WILL BE LEARNED

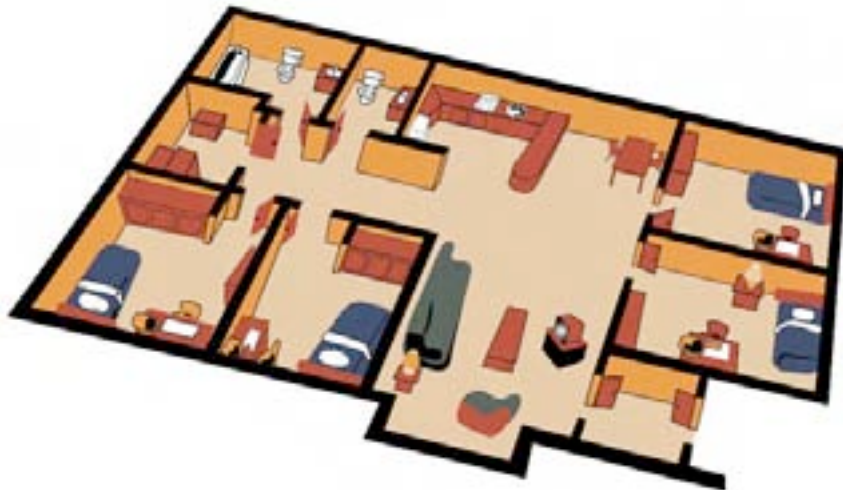
The Design and Build project will help you understand how to design and build a house, community, garden, transportation system or other structure. You will plan, design, identify materials, determine location and complete a model or the actual structure.



The efg Portfolio System includes Performance Tasks and Core Skills necessary for work and citizenship now and in the future.

RESEARCH LOCATIONS/BOOKS

- Advanced Buildings (technologies and practices) <http://www.advancedbuildings.org/>
- The American Institute of Architects <http://www.aia.org/>
- Archkitecture <http://www.archkitecture.org/>
- Architectour <http://www.architectour.com/>
- Architectural Terms <http://www.geocities.com/Axiom43/architecture.html>
- Architecture (About.com) <http://architecture.about.com/>
- Architecture and Interior Design for 20th Century America, 1935-1955 <http://memory.loc.gov/ammem/collections/gottscho/>
- Architecture for Kids <http://www.loggia.com/designarts/architecture/kids.html>
- Architecture through the Ages <http://library.thinkquest.org/10098/>
- Build a Tree House <http://www.thetreehouseguide.com/>



- Building Better Bird Houses <http://www.sunset.com/sunset/Premium/Home/1999/03-Mar/Birdhouses0399/Birdhouses.html>
- Building the Windy City <http://library.thinkquest.org/J002846/>
- Built in America: Historic Building and Engineering, 1933-Present http://memory.loc.gov/ammem/collections/habs_haer/
- Castles on the Web <http://www.castlesontheweb.com/>
- Construction-careers.com <http://www.construction-careers.com/>
- The Construction of the Empire State Building <http://www.emporis.com/en/wm/bu/?id=114095>
- Construction.com <http://www.construction.com/>
- COOLhouseplans.com <http://www.coolhouseplans.com/>

Vocabulary

- SCAFFOLD
- BUILDING
- HOUSE
- SIDING
- BULLDOZER
- HOUSING
- SITE PLAN
- CABIN
- IMPLOSION
- SKYSCRAPER
- CASTLE
- INSPECTOR
- SLATE
- CEMENT
- INTERIOR
- SOIL
- CAD
- INVENTOR
- SQUARE FOOTAGE
- CONCRETE
- INVENTION
- STONES
- CONTRACTOR
- INVOICE
- SURVEYOR
- CONSTRUCTION
- LABOR
- SUSPENSION
- DEMOLITION
- LAND
- TITLE
- DESIGN
- LEVEL

Digital Archive of American Architecture http://www.bc.edu/bc_org/avp/cas/fnart/fa267/

Down to Earth Building Bee (cob building) <http://www.alternatives.com/cob-building/>

Geometry Bus Tour (geometry in architecture) <http://mathforum.org/library/view/3994.html>

The Great Buildings Collection <http://www.greatbuildings.com/>

The Great Picture Book of Construction Equipment http://www.kenkenikki.jp/zukan/e_index.html

Habitat for Humanity <http://www.habitat.org/default2.aspx>

Historic American Buildings Survey/Historic American Engineering Record http://memory.loc.gov/ammem/collections/habs_haer/

How to Build Birdhouses <http://www.holoweb.com/cannon/buildingbh.htm>

I Want to Be an Architect - FutureScan <http://www.loggia.com/designarts/architecture/kids.html>

Museum of Modern Art - Architecture and Design Collection http://www.moma.org/collection/depts/arch_design/index.html

National Building Museum <http://www.nbm.org/>

RSMeans.com (construction) <http://www.rsmeans.com/>

Seven Wonders of the World <http://www.infoplease.com/ipa/A0001327.html>

Society of Architectural Historians <http://www.sah.org/>

Sod Houses <http://www.plainsfolk.com/bowman/sod.htm>

Washington National Cathedral <http://www.cathedral.org/cathedral/>

White House Holiday Decorations <http://www.whitehouse.gov/holiday/2005/index.html>

Frank Lloyd Wright: Life and Work <http://www.pbs.org/flw/buildings/>

Vocabulary

- TOOLS
- DEVELOPER
- MACHINE
- TRENCH
- DONATE
- MASON
- TUNNEL
- DRAINAGE
- MATERIAL
- VEHICLE
- ELECTRICIAN
- MORTAR
- WATER
- ELEVATION
- MOUNTAIN
- WOOD
- ELEVATOR
- NAILS
- WORKER
- ENGINEER
- NURSERY
- ZONING

SUGGESTIONS FOR USING WORLD WIDE WEB SITES

Read about architecture and construction.

Architecture (About.com) <http://architecture.about.com/>

Archkitecture <http://www.archkitecture.org/>

Building the Windy City <http://library.thinkquest.org/J002846/>

Conduct a mathematical analysis of the cost of building a structure.

RSMeans.com (construction) <http://www.rsmeans.com/> Construction.com <http://www.construction.com/>

Find a map, graph or chart of a famous building or structure.

The Great Buildings Collection <http://www.greatbuildings.com/>

Look for information about architecture in another country.

Architecture through the Ages <http://library.thinkquest.org/10098/>

Architectour <http://www.architectour.com/>

Islamic Architecture

Research changes in architecture and design over time.

Architecture and Interior Design for 20th Century America, 1935-1955 <http://memory.loc.gov/ammem/collections/gottscho/>

Built in America: Historic Building and Engineering, 1933-Present http://memory.loc.gov/ammem/collections/habs_haer/

Digital Archive of American Architecture http://www.bc.edu/bc_org/avp/cas/fnart/fa267/

Identify the technologies used in designing a structure or item.

Seven Wonders of the World <http://www.infoplease.com/ipa/A0001327.html>

The Construction of the Empire State Building <http://www.emporis.com/en/wm/bu/?id=114095>

Advanced Buildings (technologies and practices) <http://www.advancedbuildings.org/>

Create a plan for an original structure or building.

Build a Tree House <http://www.thetreehouseguide.com/>

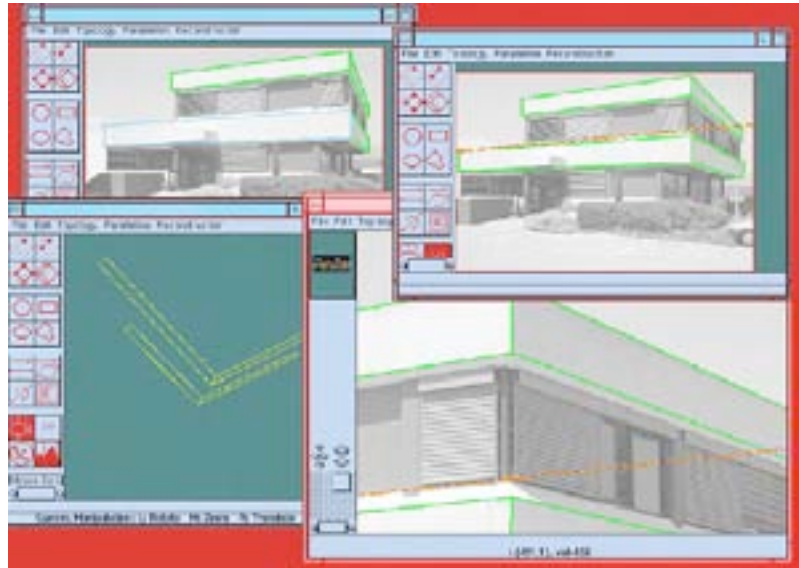
How to Build Birdhouses <http://www.holoweb.com/cannon/buildingbh.htm>

Building the Windy City <http://library.thinkquest.org/J002846/>

Write a report about an architect, engineer or clothing designer.

Frank Lloyd Wright: Life and Work <http://www.pbs.org/flw/buildings/>

Building the Windy City <http://library.thinkquest.org/J002846/>



Ask students at another school about the architecture in their community.

Investigate ways that Habitat for Humanity helps people.

Habitat for Humanity <http://www.habitat.org/default2.aspx>

List the design careers that are mentioned on these “links.”

I Want to Be an Architect - FutureScan <http://www.loggia.com/designarts/architecture/kids.html>

Society of Architectural Historians <http://www.sah.org/>

Construction-careers.com <http://www.construction-careers.com/>

TEST SITES

21st Century Academy, Chattanooga, TN

Enterprise Learning Academy, Jacksonville, FL

Vista Verde School, Irvine, CA

POSSIBLE PARTNERSHIPS

Habitat for Humanity

Architectural Firms

Real Estate Agencies

Lumber Yards

Engineering Companies

Home Improvement Stores

Community Gardens

Insurance Companies

Historical Groups

Electricians

Surveyors

Building Associations

Landscape Companies

Carpet Companies

Hotel Chains

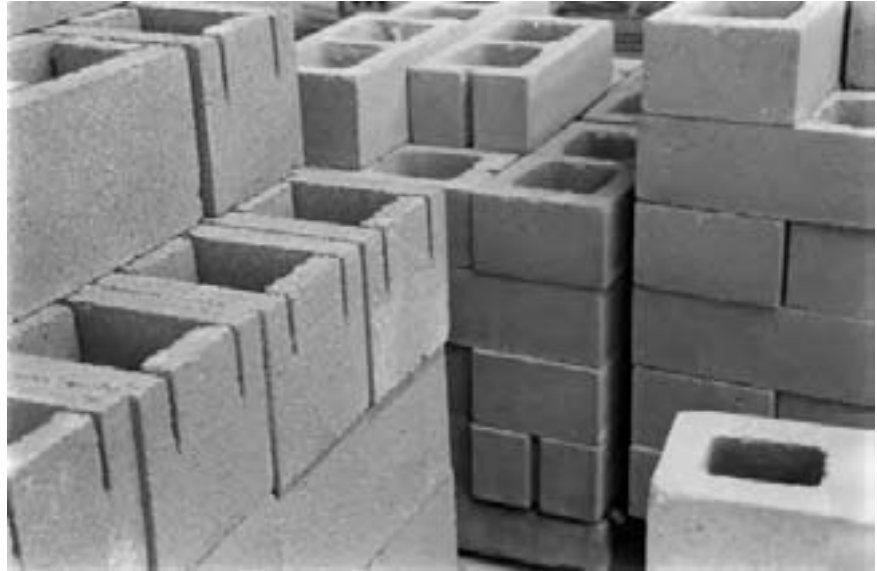
City Planners

Real Estate Agencies



Life2Learning Lessons

Lessons can be created by students based upon their research of their own community, including interviews with community officials and historians. A sample Design and Build Lesson has been developed on Habitat for Humanity.



efgStandards

Design & Build *efgProject™ Portfolio*

These efg standards can be applied to the “Business & Industry” Project to insure that students are learning necessary skills to increase achievement and master the content standards in your state, nationally, or in your country.

CONTINUOUS LEARNING RUBRICS IN 13 CONTENT AREAS

PI.00 READING

Read about development in your area. Analyze the human needs and the resultant effects on the ecosystem.

Read about architecture in the past and present. Compare the similarities and differences. Analyze the types of

architecture and structures that have survived over a long period of time.

Read *The Little House* by Virginia Lee Burton.

Research and read about historical structures in your area.

Read about the history of architecture, crafts, or design.

Read about bridges. Label and sort bridges by different parts. Determine when and where various bridges were built. (Ex. Covered Bridges, Golden Gate Bridge. London Bridge.)

Read “The True Story of the 3 Little Pigs” which offers the story from the wolf’s point of view.

Read architectural or design magazines or WWW sites.

Read about a development controversy in your community and analyze the ways that the affected people are solving the controversy.

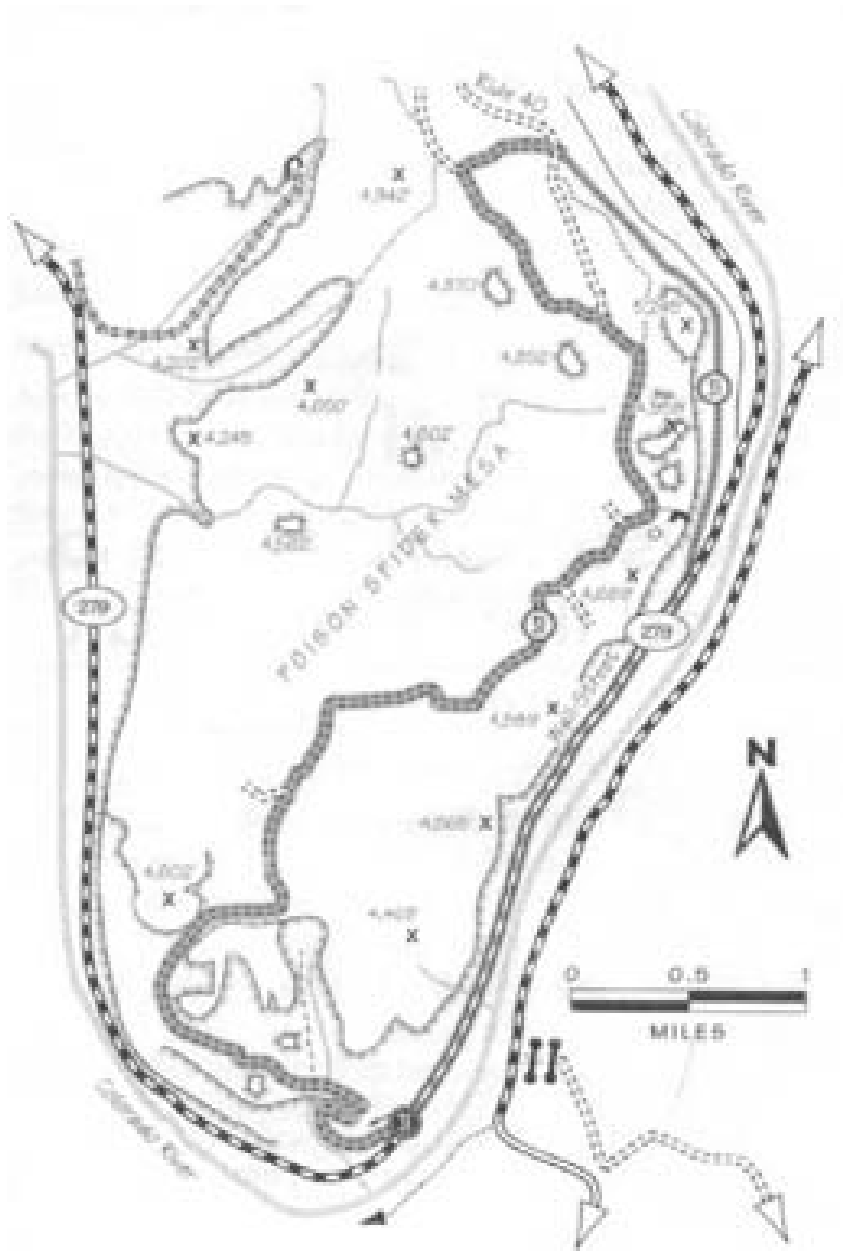
Read “Crystal Cove Cottages” by Karen E. Steen, Laura Davick and Meriam Braselle

P2.00. MATH

Compare costs of building a structure in your local area or region with another part of the world.

Analyze development in your community and determine the economic effects it has had on the area.

Calculate costs for materials needed to build a structure.



Build birdhouses. Create a business plan for selling birdhouses. Set up the business.

Measure and design structures to scale.

P3.00. MAPS / GRAPHS / CHARTS

Map the location for a structure.

Make a chart of the rooms or sections of your design.

Make a map of the rooms in your school or home.

Chart the materials necessary to build a structure.

Map or chart the major, well known structures in the world today including the dates that they were built.

P4.00. WORLD LANGUAGE

Recognize the vocabulary words in another language.

Recognize architectural words from several countries.

Create a picture dictionary of structures. Label in two languages.

P5.00. SCIENCE

Survey a defined area of land and determine the various structures that could be built on it without destroying the ecological surroundings.

Compare how environmental considerations such as climate and topography determine housing styles in three or more areas of the world.

Design and build a model skyscraper out of classroom blocks or other materials in a prescribed period of time. Analyze the different skyscrapers for size and structure. Use several methods to demolish the structure.

Investigate the need & purpose for a wall. Design and build the wall.

Research various types of sustainable housing and present scientific evidence that supports or does not support the widespread use of such housing.

Research how a scientific discovery or innovation has affected the construction process.

P6.00. SOCIAL STUDIES

Design the “ultimate” school, including floor plans for furniture and classroom equipment, based on your experience.

Compare how social needs and customs determine housing styles in two or more cultures.

Research your local housing codes and analyze how they have changed over time. Have they become more or less restrictive?

Analyze how architectural styles have changed in your community since its inception.

Select one particular style of architecture to research. What historical factors influenced this style?

Explore the ways in which people and cultures express

their religious beliefs through architecture.

Identify a structure or community that is in the historical registry. How did they restore the buildings? What process did they use? What were the benefits of restoring vs. demolition.

P7.00. HEALTH / FITNESS

Design a model community that would promote healthful living.

Design the “ultimate” fitness club.

Design a nature walk, trail or bike path for your community.



P8.00. TECHNOLOGY

Visit Real Estate Web pages to evaluate costs and availability of homes or commercial locations.

Use Computer Aided Drafting to design a model or structure.



Create a sales brochure for a house, housing development or the birdhouse business.

Create a brochure describing the various historical structures in the community.

P9.00. CREATIVE EXPRESSION

Write a poem about a structure in your area.

Paint a mural on a wall that hides a construction site.

Paint a mural in the school depicting the structures in the community.

Make a flag or badge about this project.

Paint an imaginary garden.

Design and build a garden, playhouse, birdhouse, treehouse, greenhouse or other structure.

Design a color scheme for the interior of a house or a room

Design a piece of furniture

Create a poster for the Cottage Restoration at Crystal Cove State Park

P10.00. CAREER INVESTIGATION

Identify the multiple careers associated with architectural design or construction.

Investigate changes in such careers over time.

Determine the skills and education necessary for a career in interior design, architecture or construction.

Create a world wide web site or advertisement featuring a career or various careers in design and/or construction.

Research the economic benefits resulting from several careers in design and construction.

Create a personal portfolio of your designs.

P11.00 COMMUNITY SERVICE

Participate in building a house for Habitat For Humanity.

Create a garden on the school site or in the community.

Write a report about one type of building, architecture or one architect with the their emphasis around the world (e.g., cathedrals, Frank Lloyd Wright).

P13.00 PRESENTATION

Present a design to a local architecture firm, engineering or landscape company.

Interview an architect, engineer, contractor, plumber or electrician to determine the skills necessary for their work. Chart and compare the skills.

Present your project to a member of the community.



Build a playhouse, birdhouse, or bird feeder.

Help a senior citizen with their garden.

Refurbish a portion of the school.

P12.00 REPORT

Write a report about your design or building project.

Write a report about the buildings, bridges, or gardens in the community.

Make a list of the materials needed to build a house.

Habitat for Humanity

1. READING

Read information about the history of Habitat for Humanity.

What is it? Who does it help? How old is it? Who Invented It?

Read articles in the newspaper about a Habitat construction site in your community.

2. MATH

Research how many houses Habitat for Humanity has built around the world. Compare

Identify one career related to this project in which you are interested and research it in depth.

Interview or “job shadow” a person with a career related to this project.

number of houses built in the different countries.

Investigate the cost of a Habitat for Humanity house in different parts of the world.

Determine what a homeowner pays for a Habitat house.

Investigate how much interest is paid on the mortgage on a Habitat house.

Identify where Habitat gets the money to build houses.

3. MAPS / GRAPHS / CHARTS

Using a world map identify the countries where Habitat houses have been built.

Make a chart of the corporations that have helped Habitat for Humanity.

4. WORLD LANGUAGE

Determine the world languages spoken by Habitat construction workers.

Learn the vocabulary words in the language of a country where Habitat houses are being built.

5. SCIENCE

Research the land location and acquisition process for a Habitat house in different parts of the world.

Determine the type of wood that is used at a local Habitat construction site. Determine the original source of that wood.



6. SOCIAL STUDIES

Determine the source of tools and building materials for a Habitat house.

Compare Habitat houses to the rest of the houses in the neighborhood.

Describe the process if a Habitat homeowner wants to sell their house.

Research the government agencies and elected officials that have helped Habitat for Humanity build houses.

7. HEALTH / FITNESS

Identify the family health issues that have been solved as a result of receiving a Habitat house.

Determine the number of people with disabilities who have assisted with the construction of a Habitat house.

8. TECHNOLOGY

Videotape or take digital pictures of a Habitat construction site and share with other classrooms and schools.

Conduct research on Habitat for Humanity on the Internet

Create a Power Point presentation for a Habitation Night.

9. CREATIVE EXPRESSION

Write a song or poem about Habitat houses.

Create a poster or brochure to obtain volunteers for Habitat construction efforts.

10. CAREERS

Analyze the careers of people who have supported or built Habitat houses.

Research the skills necessary for the careers in designing and building a house.



Make a Project presentation at a Habitation Meeting.

Make a presentation for another school, college, business, service club or community organization presenting the reasons for helping Habitat for Humanity build houses.

II. COMMUNITY SERVICE

Establish a Habitat Campus Chapter at your school.

Raise money through a school wide event and donate proceeds to Habitat.

Help build a Habitat house.

Earn money and buy a new Habitat homeowner a gift for their home.

12. REPORT

Write an article for a newspaper describing a Habitat construction site.

Write a report about a Habitat house that was built in your community describing all of the participants and contributors.

Write a report comparing Habitat houses in three different countries.

13. PRESENTATION

Primary Content

P1 READ TO UNDERSTAND ABOUT DESIGNING AND BUILDING

1. Recognize, sound, spell and write the designing and building vocabulary words
2. Identify correct meaning of words and sentences
3. Write designing and building vocabulary words in sentences
4. Identify main idea, important elements and sequence of events in stories and articles

P2 CONDUCT A MATHEMATICAL ANALYSIS OF DESIGNING AND BUILDING

1. Use numbers to count, and identify designing and building information

2. Use math to measure a vacant lot
3. Use math to compare information or solve a designing and building problem
4. Understand money amounts and costs associated with designing and building a residential home

P3 CREATE MAPS, GRAPHS AND CHARTS ABOUT DESIGNING AND BUILDING

1. Read and interpret maps, tables, graphs and charts related to designing and building
2. Construct graphs, tables, and charts from given designing and building information
3. Create a map of your school
4. Analyze information presented in maps and graphs of designing and building

P4 COMMUNICATE DESIGNING AND BUILDING INFORMATION IN ANOTHER LANGUAGE

1. Recognize a few designing and building vocabulary words in another language
2. Recognize all of the designing and building



vocabulary words in another language

3. Speak and write designing and building vocabulary words in one other language

4. Label designing and building pictures and charts using words in another language

P5 CONDUCT A SCIENTIFIC RESEARCH ABOUT DESIGNING AND BUILDING

1. Generate reasonable scientific explanations related to designing and building

2. Use scientific method to understand a proposed building's ability to withstand acts of nature

3. Interpret scientific data about designing and building on a particular type of ground or soil

4. Conduct a scientific investigation of environmental conditions that might affect housing styles



P6 CONDUCT A SOCIAL STUDIES INVESTIGATION ABOUT DESIGNING AND BUILDING

1. Identify and exhibit good citizenship in regard to meeting with city officials to present building design ideas

2. Identify and explain historical events related to designing and building

3. Identify different building materials and how they are sold

4. Evaluate discoveries, inventions, and innovations related to architecture

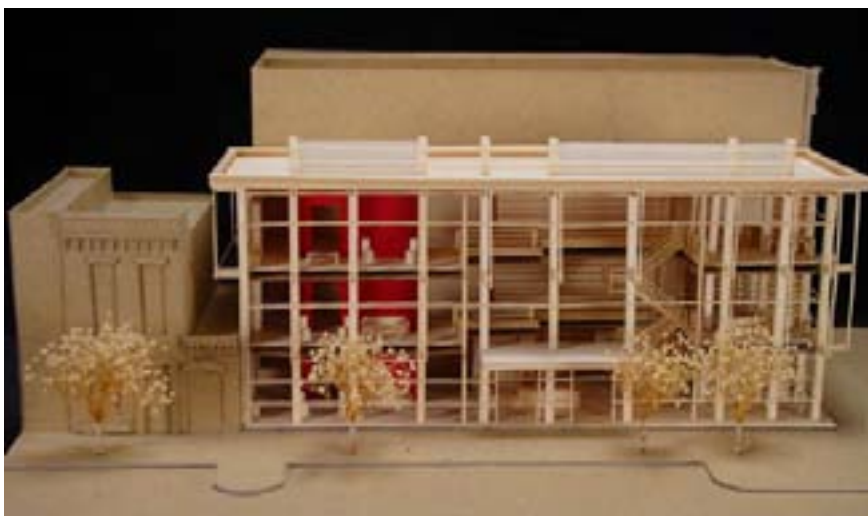
P7 INVESTIGATE THE HEALTH ISSUES RELATED TO DESIGNING AND BUILDING

1. Understand the human or animal health conditions associated with materials used in building

2. Understand the reasons why these conditions exist

3. Identify a method for improving one of these conditions

4. Create a design for a bike trail in a residential community



P8 UNDERSTAND THE TECHNOLOGY APPLICATIONS WITH DESIGNING AND BUILDING

1. Learn how technology is used in architecture

2. Understand the purpose for a variety of technology tools in designing and building

3. Analyze your designing and building information using a technology tools

4. Record your designing and building information using computers, the Internet, and digital equipment

P9 PRODUCE A CREATIVE EXPRESSION ABOUT DESIGNING AND BUILDING THROUGH ART, MUSIC OR DRAMA

1. Research various designing and building creative expressions such as art, music, dance, and drama

2. Analyze, interpret or create a mural on a wall in your school or community

3. Perform music or sing songs about a structure in your community

4. Present an original designing and building related work of art to an audience or in an exhibit

P10 INVESTIGATE CAREERS ASSOCIATED WITH DESIGNING AND BUILDING

1. Identify the multiple careers associated with designing and building

2. Investigate changes in designing and building careers over time

3. Determine skills necessary for each careers

4. Summarize one designing and building related career that is interesting

P11 COMPLETE A DESIGNING AND BUILDING RELATED COMMUNITY SERVICE

1. Demonstrate understanding for the need for community service

2. Identify ways that people can assist neighbors with their gardens



3. Determine various designing and building service options in your community

4. Complete a service project involving designing and building at your school

P12 WRITE A REPORT ABOUT DESIGNING AND BUILDING

1. Create a designing and building dictionary with definitions

2. Present designing and building information in a paragraph or report

3. Include accurate information and the most important ideas in your research

4. Use complete sentences, correct spelling, correct punctuation, appropriate capitalization

P13 MAKE A DESIGNING AND BUILDING PRESENTATION FOR A JURY USING MULTI MEDIA TOOLS

1. Organize a designing and building presentation for an audience

2. Develop charts or materials to portray information

3. Deliver presentation smoothly without notes

4. Use appropriate vocal inflections and verbal expressions

Intermediate Content

P1 READ TO UNDERSTAND ABOUT DESIGNING AND BUILDING

1. Read myths, legends, literature, informative articles, and biographies about designing and building
2. Read from dictionaries, encyclopedias, atlases, newspapers, periodicals, reports, resource books, annual reports and the Internet to gather specific designing and building information
3. Identify details and specific information about designing and building
4. Summarize, compare, contrast and draw conclusions from designing and building

P2 CONDUCT A MATHEMATICAL ANALYSIS OF DESIGNING AND BUILDING

1. Understand and use fractions and decimals to solve designing and building problems
2. Measure length, width, and area of your classroom
3. Use mathematics to solve complex problems relating to designing and building
4. Calculate costs associated with designing and building a structure

P3 CREATE MAPS, GRAPHS AND CHARTS ABOUT DESIGNING AND BUILDING

1. Explore designing and building issues using maps, graphs and charts
2. Recognize conflicting messages conveyed through graphical representations
3. Use graphics to present comparative information, interpretations, and analyses of designing and building
4. Use maps to locate new structures being built in your community

Modular Design



3. Construct designing and building sentences and write paragraphs in another language

4. Speak and write designing and building vocabulary words in two or more languages

P5 CONDUCT A SCIENTIFIC RESEARCH ABOUT DESIGNING AND BUILDING

1. Solve a range of designing and building related problems using a variety of strategies and procedures
2. Use tools and technology to obtain up to date information



P4 COMMUNICATE DESIGNING AND BUILDING INFORMATION IN ANOTHER LANGUAGE

1. Follow simple directions in another language
2. Recognize designing and building vocabulary words in two or more languages

about scientific issues related to designing and building

3. Understand the importance of water and energy in designing and building a large structure
4. Survey and interpret environmental impact issues related to designing and building



P6 CONDUCT A SOCIAL STUDIES INVESTIGATION ABOUT DESIGNING AND BUILDING

1. Understand the designing and building in relation to communities and transportation
2. Identify the laws that pertain to designing and building in your community and state
3. Determine how news sources report fact and opinion about designing and building
4. Identify multiple historical facts about architecture in your community

P7 INVESTIGATE THE HEALTH ISSUES RELATED TO DESIGNING AND BUILDING

1. Identify health problems and disease related to building construction
2. Understand the need for preventative health care

3. Identify safety rules related related to building construction
4. Identify designing and building locations in the world that have serious health problems

P8 UNDERSTAND THE TECHNOLOGY APPLICATIONS WITH DESIGNING AND BUILDING

1. Identify appropriate communication tools for accessing up to date designing and building information
2. Find designing and building information on the efg world wide web site
3. Present designing and building information using multi media tools and world wide web applications
4. Research designing and building issues by asking questions of others using communication tools

P9 PRODUCE A CREATIVE EXPRESSION ABOUT DESIGNING AND BUILDING THROUGH ART, MUSIC OR DRAMA

1. Use creative expression to convey multiple and divergent perspectives of designing and building
2. Research the historical perspective on a particular work of art that features designing and building

3. Review, create or perform a musical work that represents designing and building
4. Create a photo album, video, slide show, or Power Point presentation depicting designing and building in your part of the world

P10 INVESTIGATE CAREERS ASSOCIATED WITH DESIGNING AND BUILDING

1. Identify education necessary to obtain the skills for a career related designing and building
2. Interview or “job shadow” various people in different designing and building careers
3. Investigate geographic location for specific designing and building careers
4. Research economic benefits from various careers

P11 COMPLETE A DESIGNING AND BUILDING RELATED COMMUNITY SERVICE

1. Identify a designing and building volunteer opportunity or a service in the community



2. Develop goals for the service and a timeline to complete the assistance
3. Complete a service of short duration associated with designing and building
4. Analyze the value of the service that was provided

P12 WRITE A REPORT ABOUT DESIGNING AND BUILDING

1. Organize designing and building information, explanations and supporting details
2. Write unified and well-formed paragraphs which develop specific designing and building information
3. Write a report using notes, interviews, pertinent data and multiple sources of designing and building information
4. Use transitions from one subtopic to the next

P13 MAKE A DESIGNING AND BUILDING PRESENTATION FOR A JURY USING MULTI MEDIA TOOLS

1. Create a chart, exhibition or Power Point presentation about the your designing and building study
2. Demonstrate clear connections to the oral presentation
3. Include one or more areas of emphasis and all important information
4. Respond to questions from the audience

Advanced Content

P1 READ TO UNDERSTAND ABOUT DESIGNING AND BUILDING

1. Read about key designing and building issues around the world
2. Analyze motive, point of view, conflicts and solutions related to designing and building issues
3. Determine which ideas are accurate and complete. Distinguish fact from opinion
4. Answer designing and building questions in a manner that is plausible, logical, clear and well-supported

P2 CONDUCT A MATHEMATICAL ANALYSIS OF DESIGNING AND BUILDING

1. Using mathematics compare the quality and quantity of interior design service in your area and in another state
2. Calculate costs associated with designing and building a new house
3. Analyze the contributing

- factors to that cost
4. Compare the cost between different communities, states or countries

P3 CREATE MAPS, GRAPHS AND CHARTS ABOUT DESIGNING AND BUILDING

1. Create and use maps around the world identifying cities containing classic works of architecture
2. Identify the tallest skyscrapers in major cities of the world
3. Graph or chart new housing starts in the past compared to the present
4. Use graphs and charts to communicate mathematical interpretations



P4 COMMUNICATE DESIGNING AND BUILDING INFORMATION IN ANOTHER LANGUAGE

1. Answer designing and building questions in another language
2. Access world wide designing and building information by communicating with a person in another language
3. Label designing and building products in another language
4. Write a summary of your designing and building presentation in another language

P5 CONDUCT A SCIENTIFIC RESEARCH ABOUT DESIGNING AND BUILDING

1. Describe plants in your area and how they might be integrated into a building project

2. Demonstrate an understanding of water and energy production or use related to designing and building

3. Research a building disaster and the effects on plants, animals and people

4. Understand the relation of human needs and the resultant effects on the ecosystem

P6 CONDUCT A SOCIAL STUDIES INVESTIGATION

ABOUT DESIGNING AND BUILDING

1. Demonstrate knowledge of local, state, national and world laws governing designing and building
2. Compare local building codes from the past to the present

2. Demonstrate knowledge of first aid materials needed on a construction site
3. Describe how community health care agencies are involved in designing and building
4. Determine if health and fitness or residents are taken



3. Identify the relation of world wide transportation to designing and building
4. Create a 5 year analysis of building trends on a global basis

P7 INVESTIGATE THE HEALTH ISSUES RELATED TO DESIGNING AND BUILDING

1. Investigate health standards related to construction

into consideration in building new housing tracts or apartments

P8 UNDERSTAND THE TECHNOLOGY APPLICATIONS WITH DESIGNING AND BUILDING

1. Produce effective and accurate multi media presentations about your designing and building research
2. Create a CD ROM, Power Point presentation or

world wide web site about designing and building

3. Evaluate two or more technology tools used in designing and building
4. Present a plan for improving technology use in interior design

P9 PRODUCE A CREATIVE EXPRESSION ABOUT DESIGNING AND BUILDING THROUGH ART, MUSIC OR DRAMA

1. Categorize art or music related to designing and building
2. Compile an historical timeline of music related to designing and building
3. Create a logo or brochure for a product, company or organization that works with designing and building
4. Analyze a video depicting information about designing and building

P10 INVESTIGATE CAREERS ASSOCIATED WITH DESIGNING AND BUILDING

1. List the careers or jobs that pertain to designing and building
2. Create a newspaper ad for employees for a designing and building related company or organization
3. Compile a personal resume of your employability skills
4. Investigate quality tools and personal responsibility



necessary for designing and building careers

P11 COMPLETE AN DESIGNING AND BUILDING RELATED COMMUNITY SERVICE

1. Complete a service project with Habitat for Humanity or similar groups
2. List the results and identify the persons or locations that have benefited from the work
3. Create and distribute an evaluation form for a person or organization to complete
4. Develop a plan for maintaining the improvement in the future

P12 WRITE A REPORT ABOUT DESIGNING AND BUILDING

1. Use the complete and accurate form required for the

task (e.g., title page and bibliography)

2. Use illustrations, graphs and charts to complement and explain the ideas in the text
3. Use headings and subheading to represent the appropriate levels of organization and describe the designing and building information adequately and accurately
4. Produce an attractive, neat and easily read report that conveys all aspects of the designing and building project

P13 MAKE AN DESIGNING AND BUILDING PRESENTATION FOR A JURY USING MULTI MEDIA TOOLS

1. Make a designing and building presentation using appropriate technology and multi media tools
2. Exclude extraneous details
3. Respond appropriately to questions from the jury or audience
4. Modify presentation to reflect audience questions and interest

Expert Content

P1 READ TO UNDERSTAND ABOUT DESIGNING AND BUILDING

1. Read multiple sources of information, such as books, reports, newspapers and the Internet, about the past,

present and future of issues related to designing and building

P₂ CONDUCT A MATHEMATICAL ANALYSIS OF DESIGNING AND BUILDING

1. Create a mathematical analysis of one aspect of designing and building over time. This could be analyzing costs of construction, insurance, environmental impact statements, contractors, equipment, etc.

P₃ CREATE MAPS, GRAPHS AND CHARTS ABOUT DESIGNING AND BUILDING

1. Demonstrate knowledge of famous structures in the world by drawing on a blank globe or creating a 3 dimensional world model or diorama

P₄ COMMUNICATE DESIGNING AND BUILDING INFORMATION IN ANOTHER LANGUAGE

1. Interview someone from another country, in their language, and record their response to designing and building related questions

P₅ CONDUCT A SCIENTIFIC RESEARCH ABOUT DESIGNING AND BUILDING

1. Survey a defined area of land or water

that is represented at a construction site. Interpret the macro-ecological surrounding including possible pollution. Include a detailed description of the plants and animals affected

P₆ CONDUCT A SOCIAL STUDIES INVESTIGATION ABOUT DESIGNING AND BUILDING

1. Conduct an economic examination of architectural design in a business, city, state or region over a 7 - 10 year time frame and present 3 scenarios for the future

P₇ INVESTIGATE THE HEALTH ISSUES RELATED TO DESIGNING AND BUILDING

1. Conduct a thorough analysis of the health issues associated with workers on construction sites

P₈ UNDERSTAND THE TECHNOLOGY APPLICATIONS WITH DESIGNING AND BUILDING

1. Analyze three technologies related to designing and building that have evolved over time

P₉ PRODUCE A CREATIVE EXPRESSION ABOUT DESIGNING AND BUILDING THROUGH ART, MUSIC OR DRAMA

1. Create a work of art featuring one aspect of designing and building

P₁₀ INVESTIGATE CAREERS ASSOCIATED WITH DESIGNING AND BUILDING

1. Analyze 3 separate careers in a designing and building related industry and compare skills, educational requirements, economic benefits, and geographic locales

P₁₁ COMPLETE AN DESIGNING AND BUILDING RELATED COMMUNITY SERVICE

1. Organize a community service for your area, such as designing and creating gardens for elderly people. Create advertising for the event, coordinate the service project, identify number of participants and report results



PI2 WRITE A REPORT ABOUT DESIGNING AND BUILDING

I. Write a complete report with chapters describing research in each portfolio category, a table of contents, and a bibliography of books, periodicals, newspapers and Internet sites

PI3 MAKE AN DESIGNING AND BUILDING PRESENTATION FOR A JURY USING MULTI MEDIA TOOLS

I. Present the designing and building project to a real or digital audience providing an opportunity for questions and responding with accurate answers. Post designing and building project on a world wide web site

All or some of these standards can be identified based upon student level of learning and the “Design & Build” Project Content and Lessons. These all connect to state and national standards used on standardized measurements. They also promote student research, problem solving, data analysis, record keeping, portfolio products and digital presentations. These are all real Life2Learning skills.

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